STIC Search Report
EIC 1700

STIC Database Tracking Number: 216286

TO:	From:
Eugenia Wang Location: REM 6C61 Art Unit : 1745 March 22, 2007 Case Serial Number: 10/550080	Mei Huang Location: EIC 1700 REMSEN 4B28 Phone: 571/272-3952 Mei.huang@uspto.gov

Search Notes

Examiner Wang,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

218285

Banks, Kendra

From: EUGENIA WANG [eugenia.wang@uspto.gov]
Sent: Wednesday, March 14, 2007 3:46 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10/550080

Requester:
EUGENIA WANG (P/1745)
Art Unit:
GROUP ART UNIT 1745
Employee Number:
82927
Office Location:
REM 06C61
Phone Number:
(571)272-4942
Mailbox Number:

Case serial number:
10/550080
Class / Subclass(es):

Earliest Priority Filing Date:

Format preferred for results:

Search Topic Information:
I'm searching for a cloth used in a fuel cell that has continuous, insulating fibers lenghtwise (warp) with alternating insuating and conductive fibers woven widthwise (weft).
Special Instructions and Other Comments:

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Bib Data Sheet

CONFIRMATION NO. 1436

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/550,080	09/19/2005 RULE	429	1745	034299-666

APPLICANTS

Renaut Mosdale, Claix, FRANCE;

**** CONTINUING DATA ***************************

This application is a 371 of PCT/FR04/50109 03/16/2004

**** FOREIGN APPLICATIONS *********************

FRANCE 0350051 03/18/2003

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 07/06/2006

Foreign Priority claimed	35 USC 119 (a-d) conditions met	Verified and Acknowledged	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no	☐ yes ☐ no ☐ Met after Allowance	Examiner's Signature Initials	FRANCE	3	5	2

ADDRESS

Thelen Reid & Priest
PO Box 640640
San Jose, CA95164-0640

TITLE

Planar fuel cell and method for the production thereof

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:
900	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A planar fuel cell comprising: ~~including~~ an electrode-membrane-electrode assembly, wherein the membrane includes a fabric, [[the]] a warp fabric of which are continuous fibers in an electrically insulating material and [[the]] weft fibers of which alternately are fibers in insulating material and fibers in electrically conducting material, so as to form insulating areas and conducting areas, respectively.

2. (Original) The fuel cell according to claim 1, wherein the fibers in insulating material are in polymer or in inert glass.

3. (Original) The fuel cell according to claim 1, wherein the fibers in electrically conducting material are carbon fibers or stainless steel fibers.

4. (Cancelled)

5. (Cancelled)

STIC Search Results Feedback Form

USPTO

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

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=> d his nofile

     (FILE 'HOME' ENTERED AT 08:44:14 ON 22 MAR 2007)

     FILE 'HCAPLUS' ENTERED AT 08:44:24 ON 22 MAR 2007
L1             1 SEA US2006228605/PN
L2               QUE FUEL(2A)CELL#
L3               QUE FABRIC# OR FIBER? OR FIBR? OR FILAMENT? OR FILIFORM?
L4          8602 SEA INSULAT?(2A)L3
L5         13951 SEA (CONDUCT? OR COND#)(2A)L3
L6           370 SEA L4 AND L5
L7             2 SEA L6 AND L2
L8               QUE ALTERNAT? OR EVERY(2A)OTHER?
L9            11 SEA L6 AND L8
L10           12 SEA L7 OR L9

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L11            1 SEA US20060228605/PN
L12        42575 SEA FUEL(2A)CELL#
L13         6494 SEA INSULAT?(2A)L3
L14         9572 SEA (CONDUCT? OR COND#)(2A)L3
L15          385 SEA L13 AND L14
L16            1 SEA L15 AND L12
L17           36 SEA L15 AND L8
L18              QUE ELECTROD##
L19           10 SEA L17 AND L18
L20              QUE ELECTROD##(2A)MEMBRAN?
L21            1 SEA L19 AND L20
L22           10 SEA L11 OR L16 OR L19 OR L21

     FILE 'JAPIO' ENTERED AT 09:05:54 ON 22 MAR 2007
L23         1179 SEA INSULAT?(2A)L3
L24         3517 SEA (CONDUCT? OR COND#)(2A)L3
L25           90 SEA L23 AND L24
L26            0 SEA L25 AND L2
L27            7 SEA L25 AND L8
L28            1 SEA L27 AND L18

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L29          198 SEA INSULAT?(2A)L3
L30          637 SEA (CONDUCT? OR COND#)(2A)L3
L31           40 SEA L29 AND L30
L32            0 SEA L31 AND L2
L33            1 SEA L31 AND L8
L34            0 SEA L33 AND L18

     FILE 'COMPENDEX' ENTERED AT 09:09:36 ON 22 MAR 2007
L35         1042 SEA INSULAT?(2A)L3
L36         2336 SEA (CONDUCT? OR COND#)(2A)L3
L37          101 SEA L35 AND L36
L38            0 SEA L37 AND L2
L39            1 SEA L37 AND L8
L40            0 SEA L39 AND L20

     FILE 'INSPEC' ENTERED AT 09:10:32 ON 22 MAR 2007
L41          120 SEA L4 AND L5
L42            0 SEA L41 AND L2
L43           13 SEA L41 AND L18
L44            1 SEA L43 AND L8
L45         7667 SEA PASCAL
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     FILE 'PASCAL' ENTERED AT 09:29:36 ON 22 MAR 2007
L46           35 SEA L4 AND L5
L47            0 SEA L46 AND L2
L48            6 SEA L46 AND L18
L49            0 SEA L46 AND L8

     FILE 'SCISEARCH' ENTERED AT 09:30:54 ON 22 MAR 2007
L50           47 SEA L4 AND L5
L51            0 SEA L50 AND L2
L52           10 SEA L50 AND L18
L53            0 SEA L52 AND L8
L54            0 SEA L52 AND L20


     FILE 'PASCAL' ENTERED AT 09:33:16 ON 22 MAR 2007
                D SCA L48

     FILE 'WPIX' ENTERED AT 09:34:21 ON 22 MAR 2007
                D L22 AN
                SEL L22 PN,APPS

     FILE 'HCAPLUS' ENTERED AT 09:36:11 ON 22 MAR 2007
L55            8 SEA (WO2004-FR50109/APPS OR JP1994-96403/APPS OR

L56           11 SEA L10 NOT L55
L57           13 DUP REM L56 L28 L44 (0 DUPLICATES REMOVED)


=> fil wpix
FILE 'WPIX' ENTERED AT 09:37:36 ON 22 MAR 2007
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FILE LAST UPDATED:                          19 MAR 2007   <20070319/UP>
MOST RECENT THOMSON SCIENTIFIC UPDATE:     200719      <200719/DW>
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>>> IPC Reform backfile reclassification has been loaded to 31 December
    2006. No update date (UP) has been created for the reclassified
    documents, but they can be identified by 20060101/UPIC and
    20061231/UPIC. <<<

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PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html and
```

http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf

>>> FOR DETAILS ON THE NEW AND ENHANCED DERWENT WORLD PATENTS INDEX PLEASE SEE
http://www.stn-international.de/stndatabases/details/dwpi_r.html <<<

=> d l22 ifull 1-10

L22 ANSWER 1 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-072770 [08] WPIX
CROSS REFERENCE: 2004-613520
DOC. NO. CPI: C2005-024835 [08]
DOC. NO. NON-CPI: N2005-062709 [08]
TITLE: Color-changing and multi-colored electroluminescent cable for e.g. external and internal housing and automobile decoration, comprises group of electroluminescent filaments of different colors, which are insulated from each other
DERWENT CLASS: A89; P81; V07; W04; X22; X26
INVENTOR: HE W
PATENT ASSIGNEE: (HEWW-I) HE W
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20040247262	A1	20041209	(200508)*	EN	8[4]	G02B006-44
US 6957001	B2	20051018	(200568)	EN		G02B006-44

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20040247262	A1	US 2004-769306	20040129

PRIORITY APPLN. INFO: WO 2003-CN662 20030813
CN 2003-236894U 20030129
INT. PATENT CLASSIF.:
IPC RECLASSIF.: F21V0008-00 [I,A]; F21V0008-00 [I,C]; G02B0006-02 [I,A]; G02B0006-02 [I,C]

BASIC ABSTRACT:

US 20040247262 A1 UPAB: 20060121

NOVELTY - A color-changing and multi-colored electroluminescent cable, comprises core wire made of soft metal or polymer as the central axis (9); group of electroluminescent filaments of different colors, which are insulated from each other and helically wound on the outer side of the axis; and transparent and flexible polymer casing tube (11) on an outer side of the group of electroluminescent filaments to form a flexible light emitting cable (12).

USE - For external and internal housing and automobile decoration, and for external decoration for advertisement, in entertainment places and for toys, art and handicraft products and electric and electronic equipment.

ADVANTAGE - The color-changing and multi-colored electroluminescent cable is low in power consumption, simple in structure, convenient for use and has long service life. The

filament can be bent into several geometrical shapes as consumers demand and is beautiful and appealing.

DESCRIPTION OF DRAWINGS - The figure is a schematic diagram illustrating the structure of the electroluminescent cable.

Electroluminescent filaments (8, 10)
Central axis (9)
Polymer casing tube (11)
Light emitting cable (12)

TECHNOLOGY FOCUS:

ELECTRONICS - Preferred Components: Each filament is connected with a programmable electronic element, respectively, and the electronic element controls each filament to emit light according to a predetermined program. The group of electroluminescent filaments (10) consists of at least 2-8 electroluminescent filaments (8). The electroluminescent **filament** comprises metal **conductive** wire as a core wire and a first **electrode**; medium insulating layer made of insulating mixture with improved density, coated on the core wire; light emitting layer made of light-emitting mixture with improved density, coated on the medium insulating layer; conductive layer made of conductive mixture, coated on the light emitting layer; transmission conductive wire(s) wound at interval on the conductive layer and led out as a second **electrode**; and color polymer casing tube on the transmission conductive wires and an outer surface of conductive layer. The medium insulating layer is a mixture coat of a flexible binder having cyanoethyl as its base and barium titanate (BaTiO3) powder, with a thickness of 25-60 microns. The light-emitting layer is a mixture coat of a flexible binder having cyanoethyl as its base and light emitting phosphorus powder, with a thickness of 25-60 microns. The conductive layer is a semi-transparent, semi-solid viscous conductive polymer containing gold and methyl methacrylate, with a thickness of 0.05 mm or less. The transmission conductive wires have metal conductive wire(s) that are highly conductive, specially treated and not easy to break, the metal conductive wires winds, at interval, round the outer side of the conductive layer and are led out as the second **electrode.**

Preferred Properties: An **alternating** current (AC) power supply of the group of filament has a voltage of 50-300 V and frequency of 200-10000 Hz. The diameter of each electroluminescent filament is 0.5-3 mm. The diameter of the flexible electroluminescent cable is 2-20 mm. The diameter of the transmission conductive wires is 0.04-0.12 mm.

POLYMERS - Preferred Material: The conductive layer is a semi-transparent, semi-solid viscous conductive polymer comprising gold and methyl methacrylate.

FILE SEGMENT: CPI; GMPI; EPI
MANUAL CODE: CPI: A12-L03
EPI: V07-F01B4; V07-N03; W04-X03C; X22-B09; X26-G

L22 ANSWER 2 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-671152 [66] WPIX
DOC. NO. CPI: C2004-239651 [66]
DOC. NO. NON-CPI: N2004-531885 [66]
TITLE: Flat **fuel cell** with an **electrode-membrane-electrode** assembly using a tissue membrane divided into conducting and insulating zones, for the generation of electric power for stationary, transport or portable applications

DERWENT CLASS: L03; P42; X16
INVENTOR: MOSDALE R
PATENT ASSIGNEE: (COMS-C) COMMISSARIAT ENERGIE ATOMIQUE; (MOSD-I) MOSDALE R
COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
FR 2852736	A1	20040924	(200466)*	FR	20[6]	
WO 2004086548	A1	20041007	(200466)	FR		
EP 1604420	A1	20051214	(200582)	FR		H01M008-10
CN 1759496	A	20060412	(200654)	ZH		H01M008-10
JP 2006520998	W	20060914	(200660)	JA	13	
US 20060228605	A1	20061012	(200668)	EN		

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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2852736	A1	FR 2003-50051	20030318
CN 1759496	A	CN 2004-80006552	20040316
EP 1604420	A1	EP 2004-720904	20040316
WO 2004086548	A1	WO 2004-FR50109	20040316
EP 1604420	A1	WO 2004-FR50109	20040316
JP 2006520998	W	WO 2004-FR50109	20040316
JP 2006520998	W	JP 2006-505852	20040316
US 20060228605	A1	**WO 2004-FR50109**	**20040316**
US 20060228605	A1	**US 2005-550080**	**20050919**

FILING DETAILS:

PATENT NO	KIND		PATENT NO	
EP 1604420	A1	Based on	WO 2004086548	A
JP 2006520998	W	Based on	WO 2004086548	A

PRIORITY APPLN. INFO: FR 2003-50051 20030318
INT. PATENT CLASSIF.:
IPC ORIGINAL: B05D0005-12 [I,A]; B05D0005-12 [I,C]; H01M0002-08 [I,A]; H01M0002-08 [I,C]; H01M0004-88 [I,A]; H01M0004-88 [I,C]; H01M0008-02 [I,A]; H01M0008-10 [I,A]; H01M0008-10 [I,C]; H01M0008-24 [I,A]; H01M0008-24 [I,C]
IPC RECLASSIF.: H01M0008-02 [I,A]; H01M0008-02 [I,C]; H01M0008-10 [I,A]; H01M0008-10 [I,C]; H01M0008-24 [I,A]; H01M0008-24 [I,C]

BASIC ABSTRACT:

FR 2852736 A1 . UPAB: 20060203

NOVELTY - Flat **fuel cell** incorporating an **electrode-membrane-electrode** assembly has a membrane comprising a tissue of which the chain fibers (31) are continuous fibers of an electrical insulating material and of which the weft fibers are **alternately** of **insulating** material **fibers** (31') and of fibers in an electric conducting material (32), in order to form respectively

some insulating zones (34) and some conducting zones (33).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the fabrication of this flat **fuel cell.**

USE - The flat **fuel cells**, for example with a solid polymer electrolyte, have applications in the generation of electric power of some hundreds of milliwatts to some hundreds of kilowatts for stationary applications such as power stations or boilers, for transport applications e.g. land, marine or aviation vehicles, and for portable and transportable applications e.g. telephones or portable computers.

ADVANTAGE - Simplifies fabrication of the **fuel cell** by suppressing the need to deposit vertical insulation layers. It improves performance by the contribution of a massive electronic conductor in the electric cross members. An electronic conductor size that allows an increase of the number of pairs of **electrodes** on a given surface, augmenting the **fuel cell** voltage.

DESCRIPTION OF DRAWINGS - The first two drawings show conventional **fuel cells** and the third shows a locally conducting weft.

Membrane tissue (30)
Chain **fibers** of **insulating** material (31)
Weft **fibers** of **insulating** material (31')
Weft **fibers** of **conducting** material (32)
Conducting zones (33)
Insulating zones (34)

TECHNOLOGY FOCUS:

METALLURGY - The **fibers** of electric **conducting** material are either carbon fibers or stainless steel fibers (claimed).

POLYMERS - The **fibers** of **insulating** material may be of a polymer (claimed).

CERAMICS AND GLASS - The **fibers** of **insulating** material may be of inert glass (claimed).

FILE SEGMENT: CPI; GMPI; EPI
MANUAL CODE: CPI: L03-E04G
EPI: X16-C; X16-F02

Sept 2, 2004 too new

PCT 06 CC00 3/16/04

L22 ANSWER 3 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-652942 [63] WPIX
DOC. NO. CPI: C2004-233643 [63]
DOC. NO. NON-CPI: N2004-516649 [63]
TITLE: Textile sheet structure, useful as a safety textile, interior decoration or advertising banner comprises **conductive fibers** with **insulating** sections or **fibers** with inorganic electroluminescent material and a selective fluorescent coating
DERWENT CLASS: A85; F02; L03; X12
INVENTOR: LENK S; MUELLER H; NEUDECK A; RICHTER K; SCHEIBNER W
PATENT ASSIGNEE: (ITPI-N) ITP GMBH GES INTELLIGENTE TEXTILE PROD; (TEXT-N) TEXTILFORSCHUNGSINSTITUT THUERINGEN VOGT
COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2004074401	A1	20040902	(200463)*	DE	21[4]	

DE 10333583	A1	20040930	(200464)	DE	H05B033-12
DE 102004007365	A1	20041014	(200467)	DE	H05B033-12
EP 1601741	A1	20051207	(200580)	DE	
JP 2006519319	W	20060824	(200656)	JA 14	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION DATE
WO 2004074401	A1	WO 2004-EP1429 20040216
DE 10333583	A1	DE 2003-10333583 20030724
DE 102004007365	A1	DE 2004-102004007365 20040216
EP 1601741	A1	EP 2004-711357 20040216
EP 1601741	A1	WO 2004-EP1429 20040216
JP 2006519319	W	WO 2004-EP1429 20040216
JP 2006519319	W	JP 2006-501855 20040216

FILING DETAILS:

PATENT NO	KIND		PATENT NO	
EP 1601741	A1	Based on	WO 2004074401	A
JP 2006519319	W	Based on	WO 2004074401	A

PRIORITY APPLN. INFO: DE 2003-10333583 20030724
DE 2003-10306769 20030218

INT. PATENT CLASSIF.:

MAIN:	C09K011-08; H05B033-12
SECONDARY:	D02G003-00; D06H007-00
IPC ORIGINAL:	D03D0015-00 [I,A]; H05B0033-10 [I,A]; H05B0033-12 [I,A]; H05B0033-14 [I,A]; H05B0033-26 [I,A]
IPC RECLASSIF.:	C09K0011-08 [I,A]; C09K0011-08 [I,C]; D02G0003-44 [I,A]; D02G0003-44 [I,C]

BASIC ABSTRACT:

WO 2004074401 A1 UPAB: 20060203

NOVELTY - A textile sheet structure comprises an arrangement of a number of **conductive fibers** with **insulating** sections or **fibers** between the **conductive fibers** with an inorganic electroluminescent material incorporated into cavities of the structure or electroluminescent coated fibers as well as electrical connection elements and having a selective coating comprising a fluorescent material and/or optical brightener.

DETAILED DESCRIPTION - A textile sheet structure (I) comprises an arrangement of a number of **conductive fibers** or **fibers** having **conductive** properties with insulating sections between the **conductive fibers** or **insulating fibers** are incorporated into the structure and the structure (I) comprises an inorganic electroluminescent material as well as electrical connection elements whereby the electroluminescent material is incorporated into the interstitial cavities of the structure (I) or comprises coated fibers arranged within the structure and whereby the structure (I) comprises a selective coating comprising a fluorescent material and/or optical brightener such that the overall arrangement comprises a transparent elastomeric protective covering layer.

An INDEPENDENT CLAIM is included for a process for the production of the structure (I) by preparation of a precursor structure by means of textile techniques to form **conductive**

fibers insulated from their neighbors, application of an electroluminescent paste that is at least partially absorbed by the fibers thereby fixing it, application of the fluorescent material onto the pretreated structure followed by application of the covering layer.

USE - The structure (I) is useful as a high visibility safety textile, interior decoration or advertising banner (claimed).

ADVANTAGE - The structure (I) is simple to prepare and has high efficiency.

DESCRIPTION OF DRAWINGS - The drawing is a perspective view of **conductive fibers** having a thin electroluminescent layer.

outer **electrodes** (1)
coating (7)
fibers (8)

TECHNOLOGY FOCUS:

POLYMERS - Preferred Composition: The covering layer is polyurethane, acrylate or polyvinyl chloride. The electrical connecting elements are formed immediately upon cutting of the textile structure by textile techniques such as adhesion. Objects of use are integrated into the textile product. The **conductive fibers** are metallized fibers, carbon fibers or indium-tin oxide coated fibers.

Electroluminescent material is placed in the gap between two **conductive fibers** or a fiber coated with electroluminescent material or material having electroluminescent properties is placed into the gap. The structure (I) has a double comb structure partially printed with electroluminescent material which by additive or subtractive mixing of a number of base coloring agents has an adjustable color. The diameter of the individual fibers is 20-500 micrometers. The fluorescent material is colored or fluorescent nanoparticles are added to increase radiation intensity. The fluorescent material is applied as an individual printed image, preferably by means of screen printing, ink-jet or pen. An additive or subtractive color matrix is formed by additional printing passes. Stripes and points are formed in the structure by different coated and modified fibers. A display matrix is formed, by arrangement of the **conductive fibers** and connection elements, having individual or grouped image points.

Preferred Process: The precursor structure contains fibers having an electroluminescent coating and are galvanically strengthened and pretreated. The fluorescent fibers or coated fibers. A double comb structure is formed of **alternate** conductive and non-**conductive** weft **fibers** having **conductive** warp **fibers** for external contact by **alternate** left and right-sided floatation of the **conductive** weft **fibers** and removal of the floatation whereby the structure is used to contact discrete electronic components. The electronic device to control the light structure is integrated into the textile sheet and comprises a voltage transformer whose inductor is woven into the textile sheet.

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A12-E11C; F03-C; F04-E; L03-D01; L03-D04G; L03-G05F; L03-J
EPI: X12-D02X

L22 ANSWER 4 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-516163 [49] WPIX

DOC. NO. CPI: C2004-190590 [49]
DOC. NO. NON-CPI: N2004-408909 [49]
TITLE: Fabrication wearable **electrode** apparatus for, e.g. electronic muscle stimulator, by knitting fabric strips made of yarn of textile and metal **fibers**, providing **conductive** portions with respective terminal, and fabricating semi-garment
DERWENT CLASS: F04; P34; S05; X27
INVENTOR: CHEN C; CHEN J; HUANG H; HUANG S; KUO C; LIN Z; SHU D
PATENT ASSIGNEE: (KING-N) KING'S METAL FIBER TECHNOLOGIES CO LTD
COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20040118166	A1	20040624	(200449)*	EN	13[2]	D04B023-06
TW 567077	A	20031221	(200449)	ZH		A61N001-18
US 6915668	B2	20050712	(200546)	EN		D04B001-22
TW 2004010740	A	20040701	(200580)	ZH		A61N001-18

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20040118166	A1	US 2003-704620	20031112
TW 567077	A	TW 2002-132536	20021219
TW 2004010740	A	TW 2002-132536	20021219

PRIORITY APPLN. INFO: TW 2002-132536 20021219
INT. PATENT CLASSIF.:
MAIN: A61N001-18
SECONDARY: D02G003-12
IPC RECLASSIF.: A61N0001-04 [I,A]; A61N0001-04 [I,C]; D04B0001-14 [I,A]; D04B0001-14 [I,C]; D04B0001-22 [I,C]; D04B0001-24 [I,A]

BASIC ABSTRACT:

US 20040118166 A1 UPAB: 20060203

NOVELTY - A wearable **electrode** apparatus is fabricated by knitting a fabric (12) comprising spaced electrically **conductive fabric** strips (122, 124) made of a yarn consisting of textile fibers and metal fibers, cutting out a semi-garment from the **fabric**, providing the **conductive** portions of the semi-garment with a respective terminal, and fabricating the semi-garment into the garment as the wearable **electrode** apparatus.

DETAILED DESCRIPTION - Fabrication of a wearable **electrode** apparatus comprises knitting a fabric comprising 2N spaced electrically **conductive fabric** strips made of a yarn consisting of textile fibers and metal fibers; according to a pattern of a garment, cutting out a semi-garment from the fabric, the semi-garment comprising 2M electrically conductive portions formed from the 2N electrically **conductive fabric** strips; providing each of the 2M electrically conductive portions of the semi-garment with a respective terminal for connection with an external apparatus; and fabricating the semi-garment with the terminals into the garment as the wearable **electrode** apparatus.

N = natural number;
M = natural number at mostN.
USE - The invention is used for the fabrication of a wearable **electrode** apparatus useful for, e.g. transcutaneous electrical nerve stimulator, and electronic muscle stimulator.
ADVANTAGE - The invention provides a wearable **electrode** apparatus which is comfortable to wear, easy to produce, has low manufacturing cost, has various design model, and has limitless washing frequency.
DESCRIPTION OF DRAWINGS - The figure shows the inventive method.
Fabric (12)
Fabric strips (122, 124)
TECHNOLOGY FOCUS:
TEXTILES AND PAPER - Preferred Method: The yarn is made by a blending or a twisting process. Preferred Component: The fabric also comprises K spaced electrically **insulating** **fabric** strips, the 2N electrically **conductive** **fabric** strips and the K electrically **insulating** **fabric** strips are disposed **alternately**,
K = natural number equal to or larger than (2N-1).
METALLURGY - Preferred Component: The yarn contains 10-100 volume% metal fibers. The metal fibers are nickel-chromium alloy fibers, or stainless steel fibers.
FILE SEGMENT: CPI; GMPI; EPI
MANUAL CODE: CPI: F02-B03; F04-E; F04-E04; F04-F03
EPI: S05-A05; X27-A02

L22 ANSWER 5 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-437682 [41] WPIX
DOC. NO. CPI: C2004-163940 [41]
DOC. NO. NON-CPI: N2004-346163 [41]
TITLE: Flexible heating element has weft with additional **electrodes** and current distributing **electrodes alternating** with them, and crossing complex current **conducting** polymer **fibers** and metallized fibers
DERWENT CLASS: A21; A85; X25; X27
INVENTOR: OFITSERYAN A R; OFITSERYAN R V
PATENT ASSIGNEE: (OFIT-I) OFITSERYAN A R; (OFIT-I) OFITSERYAN R V
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
RU 2216130	C2	20031110	(200441)*	RU	4[6]	H05B003-34

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
RU 2216130	C2	RU 2001-128149	20011018

PRIORITY APPLN. INFO: RU 2001-128149 20011018
INT. PATENT CLASSIF.:
IPC RECLASSIF.: H05B0003-34 [I,A]; H05B0003-34 [I,C]
BASIC ABSTRACT:
RU 2216130 C2 UPAB: 20050530

MHuang REM4B31 571-272-3952

NOVELTY - Current conducting cloth which warp includes complex current **conducting** polymer **fibers** in the form of strips, edge and intermediate **electrodes** spaced from resistive layer by mass of **insulation fibers** and which weft has additional **electrodes** and current distributing **electrodes alternating** with them and crossing complex current **conducting** polymer **fibers** and metallized fibers of warp of current conducting cloth. Process of manufacture of flexible heating element is process in correspondence with which peripheral zones of all current distributing and part of peripheral zones of additional **electrodes** are stamped in mass of **insulation fibers** contacting intermediate **electrodes** or edge **electrodes** on one side and mass of complex current **conducting** polymer **fibers** on other side.

DETAILED DESCRIPTION - Stamping zones of metallized fibers of additional **electrodes** are located with **alternation** on one or other side of mass of complex current **conducting** polymer **fibers** with formation of commutation comb of specified resistive layer, terminal current leads of copper foil are tinned and soldered to ends of edge and additional or intermediate and additional **electrodes** on one side of resistive layer which is placed between two layers of insulation coat and are pressed by specific pressure of 8-10 kgf/sq cm with additional pressing of packages when temperature reaches 130-140 degrees C, subsequent working to specified overall dimensions, removal of part of insulation coat, soldering of supply cord and potting of zone of terminal current leads with supply cord in difficult-to-burn epoxy composition of cold hardening.

USE - Electrothermics, manufacture of electric heaters for household and industrial application.

ADVANTAGE - Enhanced serviceability and operational reliability of flexible heating element, decreased cost of its manufacture.

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A05-A01E2; A12-E10; A12-E14; A12-S05X
EPI: X25-B01C3; X27-E01

L22 ANSWER 6 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1998-019694 [03] WPIX
DOC. NO. CPI: C1998-007531 [03]
DOC. NO. NON-CPI: N1998-014864 [03]
TITLE: Accumulator plate of metallised synthetic fibres - is treated to eliminate or insulate surface projecting or adhering fibres
DERWENT CLASS: A85; L03; X16
INVENTOR: HENKE D; IMHOF O; KISTRUP H; KITZHOEFER W; KITZHOFER W; SCHAFFRATH U
PATENT ASSIGNEE: (DEAU-C) DAUG HOPPECKE GES BATTERIESYSTEME MBH; (DEAU-C) DEUT AUTOMOBIL GMBH; (HENK-I) HENKE D; (IMHO-I) IMHOF O; (KIST-I) KISTRUP H; (KITZ-I) KITZHOFER W; (SCHA-I) SCHAFFRATH U
COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19621316	A1	19971204	(199803)*	DE	10[6]	H01M004-26
US 20010000031	A1	20010315	(200116)	EN		H01M004-80

US 6214491	B1	20010410 (200122)	EN	H01M004-74
DE 19621316	C2	20020307 (200219)	DE	H01M004-26
US 6558839	B2	20030506 (200338)	EN	H01M004-74

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19621316	A1	DE 1996-19621316	19960528
US 20010000031	A1 Div Ex	US 1997-864733	19970528
US 6214491	B1	US 1997-864733	19970528
US 6558839	B2 Div Ex	US 1997-864733	19970528
US 20010000031	A1	US 2000-725577	20001130
US 6558839	B2	US 2000-725577	20001130

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 6558839 B2	Div ex	US 6214491 B

PRIORITY APPLN. INFO: DE 1996-19621316 19960528
INT. PATENT CLASSIF.:
IPC RECLASSIF.: D04H0001-42 [I,A]; D04H0001-42 [I,C]; H01M0010-42 [N,C]; H01M0010-52 [N,A]; H01M0004-66 [N,A]; H01M0004-66 [N,C]; H01M0004-70 [I,C]; H01M0004-80 [I,A]

BASIC ABSTRACT:

DE 19621316 A1 UPAB: 20050520

A made-to-size, porous, metallised fibrous framework plate comprises non-woven materials or needled felts of metal coated, inherently non-**conductive** synthetic **fibres.** The metallised fibre ends or residues, which project from the edge region and/or from the front edge of the plate (except for a current conductor tab attachment region) and which promote dendritic growth, are eliminated and/or individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate.

Also claimed is the production of the above plate.

USE - Used as an **electrode** or recombination (gas diffusion) body in an electric accumulator.

ADVANTAGE - The design increases functional reliability and avoids the risk of short-circuiting between plates of different polarity caused by projecting metallised fibre ends or fibre bundles and/or by dendritic growth.

DOCUMENTATION ABSTRACT:

DE19621316

A made-to-size, porous, metallised fibrous framework plate comprises non-woven materials or needled felts of metal coated, inherently non-**conductive** synthetic **fibres.**

The metallised fibre ends or residues, which project from the edge region and/or from the front edge of the plate (except for a current conductor tab attachment region) and which promote dendritic growth, are eliminated and/or individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate.

Also claimed is the production of the above plate.

USE

Used as an **electrode** or recombination (gas

diffusion) body in an electric accumulator.

ADVANTAGE

The design increases functional reliability and avoids the risk of short-circuiting between plates of different polarity caused by projecting metallised fibre ends or fibre bundles and/or by dendritic growth.

CLAIMED PRODUCTION

In plate production, the metallised fibre ends or residues, which adhere to or project from the edge region and/or from the front edge of the plate and which promote dendritic growth, are eliminated, individually electrically non-conductively sealed and/or embedded in an electrically non-conductive outer covering on the plate by being subjected to mechanical, chemical and/or thermal treatment.

PREFERRED PROCESS

Projecting or adhering fibres are eliminated from the plate edge by compacting the fibre structure at the edge region, preferably by hot compressing at above the melting temperature of the synthetic material of the metallised fibres, by resistance welding the metallised fibres in the edge region or by stamping out the plate from a larger semi-finished product.

Alternatively, the projecting or adhering fibres at the front or edge faces may be locally heated so that molten fibre material sheaths the fibre ends, preferably while applying pressure to the front or edge faces by to-and-fro motion on a hard substrate to roll down the cut edges.

A binder or hot melt adhesive may be applied to the edges and front edge regions of the plate to seal or embed the projecting or adhering fibres, this operation preferably being carried out after filling the plate with active material and after shaping the front or edge faces of the plate.

The adhesive or binder may be cured or dried by contact with a heated shaped body or may be bonded to a separator placed on the main face of the plate, when the plate is an **electrode** plate. (JT)

FILE SEGMENT: CPI; EPI
MANUAL CODE: CPI: A11-C04B1; A12-E06A; A12-E14; L03-E01B; L03-E03
EPI: X16-E02; X16-E05

L22 ANSWER 7 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1995-393978 [51] WPIX
DOC. NO. NON-CPI: N1995-287245 [51]
TITLE: Heating element in form of flexible tape - has web of **conducting** carbon **fibres** and **insulating** glass **fibres** with **electrodes**, all bound in thermosetting resin
DERWENT CLASS: A85; F03; L03; Q41; X25
INVENTOR: ASANO Y; KINOSHITA S; MISAKA Y; MISAWA J; MISAWA Y; MITSUSAKA N; MITSUSAKA R; MIZAWA J; MIZAWA Y; NOMURA K; UMEMOTO S
PATENT ASSIGNEE: (ARAE-N) ARA ELECTRONICS; (ARAE-N) ARA ENERTEK CO LTD; (ARIA-C) ARISAWA MFG CO LTD; (MISA-N) MISAWA SHOKAI CO LTD; (MISA-N) MISAWA SHOKAI KK; (TROA-C) TAISEI ROTEC KK
COUNTRY COUNT: 3

PATENT INFORMATION:

Not Fabric

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19516909	A1	19951116	(199551)*	DE	10[7]	H05B003-34
JP 07302683	A	19951114	(199603)	JA	1	H05B003-20
JP 10069963	A	19980310	(199820)	JA	7[7]	H05B003-20
KR 300482	B	20011022	(200236)	KO		H05B003-20
DE 19516909	B4	20060112	(200609)	DE		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19516909	A1	DE 1995-19516909	19950509
JP 07302683	A	JP 1994-96403	19940510
JP 10069963	A Div Ex	JP 1994-96403	19940510
KR 300482	B	KR 1994-13695	19940617
JP 10069963	A	JP 1997-210422	19940510

FILING DETAILS:

PATENT NO	KIND	PATENT NO
KR 300482 B	Previous Publ	KR 95035514 A

PRIORITY APPLN. INFO: JP 1994-96403 19940510
JP 1997-210422 19940510

INT. PATENT CLASSIF.:

MAIN: H05B003-20
IPC ORIGINAL: E01C0011-24 [I,C]
IPC RECLASSIF.: E01C0011-24 [I,C]
; E01C0011-26 [I,A]
; E01C0011-26 [I,A]; H05B0003-14 [I,A]; H05B0003-14 [I,C]; H05B0003-20 [I,A]; H05B0003-20 [I,C]; H05B0003-34 [I,A]
; H05B0003-34 [I,A]
; H05B0003-34 [I,C]
; H05B0003-34 [I,C]
; H05B0003-34 [I,C]; H05B0003-36 [I,A]

BASIC ABSTRACT:

DE 19516909 A1 UPAB: 20060110

A tape-shaped heating element has carbon fibres (11) for heating interwoven with glass **fibres** (12) for **insulation.** The glass **fibres** being both parallel and at right angles to the carbon fibres. A thermosetting resin or plastic is used to bind all the fibres together to the conducting **electrodes** (13) which are along the edges of the tape. On both sides of the matrix is an insulating resin or plastic foil. The tape has cut-outs along its edges to subdivide the **electrode** lengths. There is a further cover tape on either side, made form woven glass fibres impregnated with thermosetting resin, in direct contact with the resin or plastic foils.

USE/ADVANTAGE - Prevents street freezing especially where winter chains forbidden on car tyres, for heated flooring. Easy to regulate temperature, easy to maintain and eco-friendly.

FILE SEGMENT: CPI; GMPI; EPI
MANUAL CODE: CPI: A08-R03A; A12-E10; A12-R; A12-R06; A12-S08; A12-T04; F01-D09A; F01-D09B; F02-A03A; F02-E02; F03-D04; F04-E03; F04-E06; L02-H04A; L03-H04A
EPI: X25-B01B; X25-B01C3

L22 ANSWER 8 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1994-172796 [21] WPIX
DOC. NO. CPI: C1994-078535 [21]
DOC. NO. NON-CPI: N1994-136402 [21]
TITLE: **Electrode** sheet permitting measurement of physiological functions without subject consciousness - comprises sheet body woven with electrically **insulating filament** or spun yarn cloth **electrode** at positions where head and legs lay and conductive under cloth shielding external electric noise
DERWENT CLASS: D22; F07; L03; P31; S05
INVENTOR: ISHIJIMA M
PATENT ASSIGNEE: (NIYO-N) NIPPON YOSAN SENSHOKU KK
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 06114019	A	19940426	(199421)*	JA	5[6]	A61B005-0408

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 06114019 A		JP 1992-253035	19920922

PRIORITY APPLN. INFO: JP 1992-220385 19920819
INT. PATENT CLASSIF.:
IPC RECLASSIF.: A61B0005-0408 [I,A]; A61B0005-0408 [I,C]; A61B0005-0476 [I,C]; A61B0005-0478 [I,A]; A61B0005-0488 [I,C]; A61B0005-0492 [I,A]

BASIC ABSTRACT:

JP 06114019 A UPAB: 20060109

A new **electrode** sheet has a sheet body woven with an electrically **insulating filament** or spun yarn, a cloth **electrode** arranged at the position where a subject lays his/her head, another cloth **electrode** arranged at the position where the subject lays his/her legs and conductive cloth disposed under the sheet body to control external electric noises.

Pref. the **electrodes** are composed of a woven, knitted or nonwoven **fabric** including a **conductive** thread. **Alternatively**, the **electrodes** are pref. formed by incorporating a conductive thread into the sheet body. Pref. the conductive thread is a filament or spun yarn containing copper sulphide and nickel.

Also claimed is an **electrode** sheet having the sheet body, a pair of cloth **electrodes** arranged at the positions corresponding to the breast of a subject lying on the sheet, a cloth **electrode** put on the breast of the subject and the conductive cloth controlling external noises. Pref. the body consists of two pieces; and the pair of the **electrodes** are disposed between the pieces.

USE/ADVANTAGE - The sheet achieves a high signal-to-noise ratio, ensuring accurate measurement of very weak potentials and physiological functions. It permits measurement simply by making a subject lie on it without consciousness of being measured.

FILE SEGMENT: CPI; GMPI; EPI

MANUAL CODE: CPI: D09-C04; F02-A03A; F04-E04; L03-J
EPI: S05-D01A

L22 ANSWER 9 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-111577 [15] WPIX
DOC. NO. NON-CPI: N1990-086186; N1993-116937 [21] [21]
TITLE: High frequency heating appts., e.g. electromagnetic induction cooker and microwave oven - removes electron remaining between gate **electrode** and emitter of insulated gate bipolar transistor
DERWENT CLASS: X25; X27
INVENTOR: TANAKA T
PATENT ASSIGNEE: (TOKE-C) TOSHIBA KK
COUNTRY COUNT: 2

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 02061981	A	19900301	(199015)*	JA		
US 5204504	A	19930420	(199319)B	EN	15[8]	H05B006-68

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 02061981	A	JP 1988-212043	19880826
US 5204504	A	US 1989-398506	19890825

PRIORITY APPLN. INFO: JP 1988-212043 19880826
INT. PATENT CLASSIF.:
IPC RECLASSIF.: H02M0007-538 [I,A]; H02M0007-538 [I,C]; H03K0017-04 [I,A]; H03K0017-04 [I,C]; H03K0017-0412 [I,A]; H03K0017-16 [I,A]; H03K0017-16 [I,C]; H05B0006-06 [I,A]; H05B0006-06 [I,C]; H05B0006-12 [I,A]; H05B0006-12 [I,C]; H05B0006-66 [I,A]; H05B0006-66 [I,C]

BASIC ABSTRACT:

US 5204504 A UPAB: 20050430

The h.f. heating appts. has a DC (direct current)-to-AC (**alternating** current) inverter, having an insulated gate bipolar transistor, for inverting DC power into h.f. AC power utilising a resonant phenomenon by switching the insulated gate bipolar transistor at a predetermined h.f. The AC power heats an article using electromagnetic induction.

A gate **electrode** of the insulated gate bipolar transistor is driven for the switching. An electron remaining between the gate **electrode** of the insulated gate bipolar transistor and an emitter when the insulated gate bipolar transistor is turned OFF is removed. Vibrations of a gate voltage of the insulated gate bipolar transistor are suppressed when the insulated gate bipolar transistor is turned OFF.

ADVANTAGE - Reduced power loss. (First major country equivalent to JP2061981). - .D

FILE SEGMENT: EPI
MANUAL CODE: EPI: X25-B02A; X25-B02A2; X25-B02B; X25-B02B1; X27-C01; X27-C06; X27-C07

L22 ANSWER 10 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-087194 [12] WPIX

DOC. NO. CPI: C1990-038338 [21]
TITLE: Filter for liquid containing carbon or combustible solid - has woven fabric and silicon carbide electrically **conductive** and exothermic **fibre**, with heater **electrodes**
DERWENT CLASS: J01; J09; L03
INVENTOR: IWATA K; SHIMADA K
PATENT ASSIGNEE: (TEIJ-C) TEIJIN LTD
COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 02040211	A	19900209	(199012)*	JA	4	[2]

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 02040211 A		JP 1988-190563	19880801

PRIORITY APPLN. INFO: JP 1988-190563 19880801
INT. PATENT CLASSIF.:
IPC RECLASSIF.: B01D0035-00 [I,C]; B01D0035-18 [I,A]; B01D0039-20 [I,A]; B01D0039-20 [I,C]; B01D0046-42 [I,A]; B01D0046-42 [I,C]

BASIC ABSTRACT:

JP 02040211 A UPAB: 20050430

A filter comprises a woven fabric, as a filter layer, made from electrically **conductive** and exothermic **fibre**, being continuous, and **electrodes**, set on both sides of the fabric, which are able to heat the woven fabric.

The filter comprises pref. multi-layered fabric. The fibre is pref. electrically **conductive** ceramic **fibre** which comprises silicon carbide. The filter comprises pref. the layered prod., made by placing the layer of woven fabric and set **electrodes** on both sides of it **alternatively** with the layer, being liquid-permeable and electrically insulating sheet. The filter layer is pref. set on a liquid-permeable and supporting material, having electrically **insulating** property. The **fibre** has pref. 10 power(-4) - 10 power(3) ohm.cm specific resistance of single fibre at 500-1200 deg.C.

USE/ADVANTAGE - The filter is used for liquid, containing carbon or combustible solid and is useful for separation of liquid, having high temperature or for burning of trapped material.

FILE SEGMENT: CPI
MANUAL CODE: CPI: J01-H; L03-A02

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 09:38:09 ON 22 MAR 2007
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FILE COVERS 1907 - 22 Mar 2007 VOL 146 ISS 13
FILE LAST UPDATED: 21 Mar 2007 (20070321/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> fil japio
FILE 'JAPIO' ENTERED AT 09:38:15 ON 22 MAR 2007

FILE LAST UPDATED: 20 MAR 2007 <20070320/UP>
FILE COVERS APRIL 1973 TO NOVEMBER 30, 2006

>>> GRAPHIC IMAGES AVAILABLE <<<

=> fil inspec
FILE 'INSPEC' ENTERED AT 09:38:19 ON 22 MAR 2007
Compiled and produced by the IET in association WITH FIZ KARLSRUHE

FILE LAST UPDATED: 19 MAR 2007 <20070319/UP>
FILE COVERS 1898 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE ABSTRACT (/AB), BASIC INDEX (/BI) AND TITLE (/TI) FIELDS >>>

=> d l57 iall 1-13

L57 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:981808 HCAPLUS
DOCUMENT NUMBER: 145:326604
ENTRY DATE: Entered STN: 22 Sep 2006
TITLE: Flexible electric circuit boards employing **fibrous insulator** substrates and having wirings on both sides
INVENTOR(S): Hiroshige, Katsuya
PATENT ASSIGNEE(S): Hiroshige, Koichi, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
CLASSIFICATION: 76-3 (Electric Phenomena)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006253612	A	20060921	JP 2005-71950	

200503
14

PRIORITY APPLN. INFO.: JP 2005-71950
200503
14

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006253612	IPCI	H05K0001-11 [I,A]
	FTERM	5E317/AA24; 5E317/BB02; 5E317/BB03; 5E317/BB04; 5E317/BB12; 5E317/BB13; 5E317/BB14; 5E317/BB15; 5E317/BB18; 5E317/CC22; 5E317/CC32; 5E317/CD15; 5E317/CD25; 5E317/CD32; 5E317/GG03

ABSTRACT:
The circuit board comprises, in a hole formed in the **fibrous** ***insulator*** substrate, an elec. conductive member tangling with the fibrous substrate. **Alternatively**, a patternable photosensitive elec. insulating layer is applied on the insulator substrate and patterned so as to give holes in which elec. conductive member capable of tangling with the fibers of the substrate is formed. ***Alternatively*** , a strippable photoresist is patternwise applied on the **fibrous insulator** substrate prior to filling the substrate with an insulator polymer, and then the resist is stripped and elec. conductive member is formed the resist-stripped region. ***Alternatively*** , an insulating sheet is bonded on one or both sides of the insulating substrate, then a hole is formed in the sheet for subsequently forming a conductive member. The formed conductor shows high adhesion strength with the substrate, and the total thickness of the circuit board is thin enough.

SUPPL. TERM: flexible elec circuit board **fibrous insulator** substrate **conductor** filling; photolithog patterning flexible circuit board **fibrous insulator** formation **conductor**

INDEX TERM: Electric **insulators**
(**fibrous**, substrate; flexible elec. circuit board with **fibrous insulator** substrate having hole filled with conductor member)

INDEX TERM: Printed circuit boards
(flexible; flexible elec. circuit board with **fibrous insulator** substrate having hole filled with conductor member)

INDEX TERM: Photolithography
(for forming conductor member; flexible elec. circuit board with **fibrous insulator** substrate having hole filled with conductor member)

L57 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:677624 HCAPLUS
DOCUMENT NUMBER: 145:125611
ENTRY DATE: Entered STN: 13 Jul 2006
TITLE: Composites, prepregs, metal-bonded laminates, multilayered substrates, and their manufacture
INVENTOR(S): Takano, Nozomi; Kamiya, Masaki
PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
CLASSIFICATION: 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006182900	A	20060713	JP 2004-377431	200412 27

PRIORITY APPLN. INFO.: JP 2004-377431 200412 27

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2006182900	IPCI	C08J0005-24 [I,A]; B32B0003-08 [I,A]; B32B0005-28 [I,A]; B32B0005-22 [I,C*]; B32B0015-08 [I,A]; C08J0005-04 [I,A]; H05K0001-03 [I,A]; H05K0003-46 [I,A]
	FTERM	4F072/AA04; 4F072/AA07; 4F072/AB09; 4F072/AB28; 4F072/AB29; 4F072/AD09; 4F072/AD25; 4F072/AD54; 4F072/AE01; 4F072/AF13; 4F072/AF15; 4F072/AF26; 4F072/AF28; 4F072/AF30; 4F072/AG03; 4F072/AG19; 4F072/AJ04; 4F072/AK02; 4F072/AL13; 4F100/AB01B; 4F100/AB17B; 4F100/AB33B; 4F100/AG00A; 4F100/AK25A; 4F100/BA02; 4F100/BA08; 4F100/DC11A; 4F100/DD25A; 4F100/DG11A; 4F100/DH01A; 4F100/EJ17; 4F100/GB43; 4F100/JG01A; 4F100/JL03; 4F100/JL05; 4F100/YY00A; 5E346/AA06; 5E346/AA12; 5E346/AA15; 5E346/AA43; 5E346/BB01; 5E346/CC04; 5E346/CC08; 5E346/CC09; 5E346/CC31; 5E346/DD02; 5E346/DD12; 5E346/DD32; 5E346/EE31; 5E346/FF18; 5E346/GG02; 5E346/GG19; 5E346/GG22; 5E346/GG28; 5E346/HH33

ABSTRACT:
Title composites comprise fiber sheets arranged in polymer compns. with storage modulus 100-2000 MPa at 25°. The prepregs are obtained by semicuring the polymer compns. of the composites. The laminates, where elec. conductors extending in the thickness direction are deposited on inner walls of through holes, are obtained by forming metal foils on the composites or the prepregs and curing the polymer compns. The substrates are manufactured by (1) forming through holes in the composites, (2) filling the holes with elec. conducting pastes containing elec. conducting powders, liquid polymers, and powdered curing agents to form via holes, (3) hot-press bonding both surfaces of the composites with Cu foils, (4) processing the Cu foils to form circuit patterns for inner layers, and (5) hot-press bonding the composites and Cu foils on the resulting double-sided sheets ***alternatively*** and processing the Cu foils to form circuit patterns for outer layers. In the substrates, glass transition temperature of mixts. of the liquid polymers and the curing agents after curing is lower than that of the polymer compns. in the composites after curing. Thus, drop of polymer-cured products and reinforcements is prevented in thinning prepregs.

SUPPL. TERM: fiber reinforced polymer composite drop prevention; storage modulus polymer elec insulator substrate; copper foil polymer laminate printed circuit

INDEX TERM: Electric **insulators**
Electrically **conductive** pastes
(**fiber**-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Acrylic polymers, uses
Laminated plastics, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Metals, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(foils; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Reinforced plastics
ROLE: TEM (Technical or engineered material use); USES (Uses)
(glass fiber-reinforced; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Printed circuit boards
(multilayer; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Glass fiber fabrics
ROLE: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(reinforcements; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: Contact holes
(via holes; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

INDEX TERM: 7440-50-8, Copper, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(foils; fiber-polymer composites for drop-prevented thinned prepregs in manufacture of multilayered substrates)

L57 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:302677 HCAPLUS
DOCUMENT NUMBER: 142:358088
ENTRY DATE: Entered STN: 08 Apr 2005
TITLE: Conductive component and separator for **fuel cell**
INVENTOR(S): Takahashi, Kunio; Terasawa, Toshihisa
PATENT ASSIGNEE(S): Aisin Seiki Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

INT. PATENT CLASSIF.:
MAIN: H01M008-02
SECONDARY: C08K007-06; C08L101-12
CLASSIFICATION: 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005093360	A	20050407	JP 2003-328385	20030919
PRIORITY APPLN. INFO.:			JP 2003-328385	20030919

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2005093360	ICM	H01M008-02
	ICS	C08K007-06; C08L101-12
	IPCI	H01M0008-02 [ICM,7]; C08K0007-06 [ICS,7]; C08K0007-00 [ICS,7,C*]; C08L0101-12 [ICS,7]; C08L0101-00 [ICS,7,C*]
	IPCR	C08K0007-00 [I,C*]; C08K0007-06 [I,A]; C08L0101-00 [I,C*]; C08L0101-12 [I,A]; H01M0008-02 [I,A]; H01M0008-02 [I,C*]
	FTERM	4J002/BD141; 4J002/CC031; 4J002/CC101; 4J002/CD001; 4J002/CN011; 4J002/CN031; 4J002/DA016; 4J002/DA017; 4J002/FA046; 4J002/FA047; 4J002/FD116; 4J002/FD117; 4J002/GQ00; 5H026/AA02; 5H026/BB08; 5H026/CX02; 5H026/EE05; 5H026/EE18; 5H026/HH05

ABSTRACT:
The conductive component comprises a filamentous carbon, having the C net plane perpendicular or inclined to the fiber axis, contained in an insulating material. The separator uses the above component.

SUPPL. TERM: **fuel cell** separator
conductive component **filamentous** carbon **insulating** material
INDEX TERM: **Fuel cell** separators
(**conductive** components having **filamentous** carbon containing **insulating** materials for **fuel cell** separators)
INDEX TERM: **Fibers**
Phenolic resins, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(**conductive** components having **filamentous** carbon containing **insulating** materials for **fuel cell** separators)
INDEX TERM: 7782-42-5, Graphite, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(**conductive** components having

filamentous carbon containing **insulating** materials for **fuel cell** separators)

INDEX TERM: 7440-44-0, Carbon, uses
ROLE: TEM (Technical or engineered material use); USES (Uses)
(**filamentous**; **conductive** components having **filamentous** carbon containing **insulating** materials for **fuel cell** separators)

L57 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:82354 HCAPLUS
DOCUMENT NUMBER: 138:225283
ENTRY DATE: Entered STN: 03 Feb 2003
TITLE: Non-**fibrous insulation** of submerged nozzles for continuous casting
AUTHOR(S): Schrick, Gunther; Gotthelf, Dirk; Buhr, Andreas
CORPORATE SOURCE: TYK Europe GmbH, Duisburg, 47229, Germany
SOURCE: Proceedings of [the] Unified International Technical Conference on Refractories, Biennial Worldwide Congress, 7th, Cancun, Mexico, Nov. 4-7, 2001 (2001), Volume 3, 1244-1253. American Ceramic Society: Westerville, Ohio.
CODEN: 69DNT8
DOCUMENT TYPE: Conference
LANGUAGE: English
CLASSIFICATION: 57-6 (Ceramics)
Section cross-reference(s): 55

ABSTRACT:
This investigation reports on the use of a microporous insulation on the basis of calcium hexaaluminate as an **alternative** to the nowadays usually employed **fibrous insulation** of submerged nozzles for continuous casting. The new insulation offers advantages in submerged nozzle production owing to the greater suitability for process automation. This new insulation has also shown good results in practise due to good heat insulating qualities and easy handling. These pos. test results have now been confirmed in an industrial trial with more than 100 submerged nozzles. Compared to the **fibrous** ***alternative*** , thermal **insulation** is improved with the new insulation even with the same thickness. Following the pos. results, microporous insulation is being more and more applied to submerged nozzles.

SUPPL. TERM: submerged nozzle calcium aluminate thermal insulator steel continuous casting
INDEX TERM: Casting of metals
(continuous; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
INDEX TERM: Porosity
(microporosity; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
INDEX TERM: Process automation
Thermal **conductivity**
Thermal **insulators**
(non-**fibrous** calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Nozzles
(submerged; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
INDEX TERM: 12005-50-4, Calcium hexaaluminate
ROLE: DEV (Device component use); PRP (Properties); USES (Uses)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
INDEX TERM: 12597-69-2, Steel, processes
ROLE: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Morikawa, K; Taikabutsu 2000, V52(4), P189 HCAPLUS
(2) Perich, R; UNITECR'97 Proc 1997, V1, P287
(3) Schulle, W; Feuerfeste Werkstoffe 1990

L57 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:327739 HCAPLUS
DOCUMENT NUMBER: 134:314851
ENTRY DATE: Entered STN: 09 May 2001
TITLE: Non-**fibrous insulation** of submerged nozzles for continuous casting
AUTHOR(S): Gotthelf, Dirk; Schrick, Gunther; Buhr, Andreas
CORPORATE SOURCE: Thyssen Krupp Stahl AG, Dortmund, Germany
SOURCE: Stahl und Eisen (2001), 121(3), 73-77
CODEN: STEIA3; ISSN: 0340-4803
PUBLISHER: Verlag Stahleisen GmbH
DOCUMENT TYPE: Journal
LANGUAGE: German
CLASSIFICATION: 57-6 (Ceramics)
Section cross-reference(s): 55

ABSTRACT:
This investigation reports on the use of a microporous insulation on the basis of calcium hexaaluminate as an **alternative** to the nowadays usually employed **fibrous insulation** of submerged nozzles for continuous casting. The new insulation offers advantages in submerged nozzle production owing to the greater suitability for process automation. This new insulation has also shown good results in practise due to good heat insulating qualities and easy handling. These pos. test results have now been confirmed in an industrial trial with more than 100 submerged nozzles. Compared to the **fibrous** ***alternative*** , thermal **insulation** is improved with the new insulation even with the same thickness. Following the pos. results, microporous insulation is being more and more applied to submerged nozzles.

SUPPL. TERM: submerged nozzle calcium aluminate thermal insulator steel continuous casting
INDEX TERM: Casting of metals
(continuous; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)
INDEX TERM: Porosity
(microporosity; non-fibrous calcium hexaaluminate

thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Process automation
Thermal **conductivity**
Thermal **insulators**
(non-**fibrous** calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: Nozzles
(submerged; non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12005-50-4, Calcium hexaaluminate
ROLE: DEV (Device component use); PRP (Properties); USES (Uses)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

INDEX TERM: 12597-69-2, Steel, processes
ROLE: PEP (Physical, engineering or chemical process); PROC (Process)
(non-fibrous calcium hexaaluminate thermal insulation of submerged nozzles for continuous casting of steel)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
(1) Granitzki, K; Feuerfeste Stoffe im Giessereibetrieb, 2. Aufl 1989
(2) Morikawa, K; Taikabutsu 2000, V52(4), P189 HCAPLUS
(3) Perich, R; Proc UNITECR '97 1997, V1, P287
(4) Schulle, W; Feuerfeste Werkstoffe. Dt Verlag fur Grundstoffindustrie 1990
(5) Schulle, W; stahl u eisen 1999, V119(1), P55 HCAPLUS
(6) Van Garsel, D; Proc 41. Intern Colloq on Refractories 1998, P122
(7) Van Garsel, D; Proc UNITECR '99 P181

L57 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:590672 HCAPLUS
DOCUMENT NUMBER: 129:217896
ENTRY DATE: Entered STN: 17 Sep 1998
TITLE: Patterned **fibers** having **alternating conductive** and insulating segments and their manufacture
INVENTOR(S): Rasmussen, Glen L.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: D06M014-08
US PATENT CLASSIF.: 428376000
CLASSIFICATION: 40-10 (Textiles and Fibers)
Section cross-reference(s): 76
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 5804310	A	19980908	US 1996-768487	199612 18
PRIORITY APPLN. INFO.:			US 1996-768487	199612 18

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5804310	ICM	D06M014-08
	INCL	428376000
	IPCI	D06M0014-08 [ICM,6]; D06M0014-00 [ICM,6,C*]
	IPCR	D04H0001-00 [I,C*]; D04H0001-14 [I,A]; D04H0001-42 [I,C*]; D04H0001-42 [I,A]; D06M0011-00 [I,C*]; D06M0011-83 [I,A]; D06M0023-00 [I,C*]; D06M0023-16 [I,A]; G03F0007-00 [I,C*]; G03F0007-00 [I,A]; H01B0001-20 [I,C*]; H01B0001-20 [I,A]; H01B0001-22 [I,C*]; H01B0001-22 [I,A]
	NCL	428/376.000; 430/314.000; 430/320.000; 442/320.000
	ECLA	D04H001/14; D04H001/42; D06M011/83; D06M023/16; G03F007/00; H01B001/20; H01B001/22

ABSTRACT:
Patterned fibers (such as polyacrylonitrile carbon fibers) having repeating segments of controlled conductivity separated by insulating segments are prepared by patterning the fiber with photoresist and/or metalizing bare portions of the fiber where the photoresist has been exposed and removed. The fibers are patterned as **alternating** segments of bare fiber/photoresist-coated fiber, bare fiber/metalized fiber, or metalized fiber/photoresist-coated fiber.

SUPPL. TERM: patterned **fiber alternating conductive insulating** segment; photoresist coated patterned fiber; metalized fiber patterned fiber; PAN carbon fiber patterned

INDEX TERM: Coating process
(metalization; patterned **fibers** having **alternating conductive** and insulating segments)

INDEX TERM: Photoresists
(patterned **fibers** having **alternating conductive** and insulating segments)

INDEX TERM: Fibers
ROLE: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(patterned **fibers** having **alternating conductive** and insulating segments)

INDEX TERM: Carbon fibers, uses
ROLE: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(polyacrylonitrile-based; patterned **fibers** having **alternating conductive**

and insulating segments)
INDEX TERM: 25014-41-9D, PAN, carbonized
ROLE: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(fiber; patterned **fibers** having **alternating conductive** and insulating segments)
INDEX TERM: 11115-78-9, Copper sulfide
ROLE: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(patterned **fibers** having **alternating conductive** and insulating segments)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S):
(1) Arsac; US 4374893 1983 HCAPLUS
(2) Covey; US 4892626 1990 HCAPLUS
(3) Covey; US 5089325 1992
(4) Hathaway; J Chem Soc (A) 1970, P884 HCAPLUS
(5) Howard; US 4428761 1984 HCAPLUS
(6) Kohama; US 4215988 1980 HCAPLUS
(7) Liang; US 4661376 1987 HCAPLUS
(8) Mariker; US 4759986 1988 HCAPLUS
(9) Okamoto; Japanese Journal of Applied Physics 1973, V12(8), P1130 HCAPLUS
(10) Redd; US 4218217 1980 HCAPLUS
(11) Schmadel; US 4566889 1986 HCAPLUS
(12) Soriano; Solar Energy Materials 1985, V12, P149 HCAPLUS
(13) Tomibe; US 4364739 1982 HCAPLUS
(14) Wegerhoff; US 4332600 1982 HCAPLUS
(15) Wegerhoff; US 4332601 1982 HCAPLUS
(16) White; Effective Medium Analysis of the Dielectric Constant in Dielectric Media Containing Short Conductive Fibers 1985

L57 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:62375 HCAPLUS
DOCUMENT NUMBER: 128:142434
ENTRY DATE: Entered STN: 02 Feb 1998
TITLE: Filter elements for purification of oils.
INVENTOR(S): Sasaki, Toru
PATENT ASSIGNEE(S): Kleentek Industrial Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
INT. PATENT CLASSIF.:
MAIN: B01D035-02
SECONDARY: B01D039-08
CLASSIFICATION: 47-2 (Apparatus and Plant Equipment)
Section cross-reference(s): 51, 76
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10015314 A 19980120 JP 1996-189939 199607 02

PRIORITY APPLN. INFO.: JP 1996-189939 199607 02

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10015314	ICM	B01D035-02
	ICS	B01D039-08
	IPCI	B01D0035-02 [ICM,6]; B01D0039-08 [ICS,6]

ABSTRACT:
The title filter elements are composed of elec. **conductive** ***fibers*** , and they are not electrostatically chargeable. The filter elements are formed by **alternately** laminating elec.-***conductive*** **fiber** sheets and elec.-**insulating** ***fiber*** sheets. The filter elements are earthed. The oils can be elec.-insulating oils, etc.

SUPPL. TERM: filter element oil purifn; elec insulating oil purifn filter; electrostatic charge prevention oil filter element

INDEX TERM: **Fibers**
ROLE: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(elec. **conducting**, sheets; filter elements for purification of oils)

INDEX TERM: Electric **conductors**
(**fiber**, sheets; filter elements for purification of oils)

INDEX TERM: Electric **insulators**
(**fibers**, sheets; filter elements for purification of oils)

INDEX TERM: Filters
(filter elements for purification of oils)

INDEX TERM: Liquids
ROLE: PEP (Physical, engineering or chemical process); PROC (Process)
(oils, purification of; filter elements for purification of oils)

INDEX TERM: Electrostatic charge
(prevention of; filter elements for purification of oils)

INDEX TERM: Transformer oils
(purification of; filter elements for purification of oils)

INDEX TERM: Hydrocarbon oils
ROLE: PEP (Physical, engineering or chemical process); PROC (Process)
(purification of; filter elements for purification of oils)

L57 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:632968 HCAPLUS
DOCUMENT NUMBER: 113:232968
ENTRY DATE: Entered STN: 22 Dec 1990
TITLE: Potted electrical devices with thermally conductive surface
INVENTOR(S): Sheer, M. Lana; Solenberger, John C.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: Eur. Pat. Appl., 4 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
INT. PATENT CLASSIF.:
MAIN: H01B003-00
CLASSIFICATION: 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 375851	A2	19900704	EP 1989-118314	19891003
EP 375851	A3	19901128		
EP 375851	B1	19950823		
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
AU 8942449	A	19900405	AU 1989-42449	19891003
AU 637583	B2	19930603		
BR 8905014	A	19900508	BR 1989-5014	19891003
IL 91868	A	19940624	IL 1989-91868	19891003
ES 2077573	T3	19951201	ES 1989-118314	19891003
KR 132052	B1	19980424	KR 1989-14265	19891004
PRIORITY APPLN. INFO.:			US 1988-251772 A	19881003

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 375851	ICM	H01B003-00
	IPCI	H01B0003-00 [ICM,5]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
	ECLA	H01B003/42B2; H01F027/02A; H01L023/31H4; H01L023/373H; H01L023/373P
AU 8942449	IPCI	H01F0005-06 [ICM,4]; H01B0003-30 [ICS,4]; H01L0023-30 [ICS,4]; H05K0005-00 [ICS,4]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
BR 8905014	IPCI	H01L0021-00 [ICM,5]

	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
IL 91868	IPCI	H01B0001-00 [ICM,5]; H01B0003-00 [ICS,5]; H05K0005-06 [ICS,5]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
ES 2077573	IPCI	H01B0003-00 [ICM,6]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]
KR 132052	IPCI	H01B0003-00 [ICM,6]; H01F0027-32 [ICS,6]
	IPCR	H01F0027-32 [I,C*]; H01F0027-32 [I,A]; H01B0003-42 [I,C*]; H01B0003-42 [I,A]; H01F0027-02 [I,C*]; H01F0027-02 [I,A]; H01L0023-28 [I,C*]; H01L0023-31 [I,A]; H01L0023-34 [I,C*]; H01L0023-373 [I,A]

ABSTRACT:
Elec. and electronic devices are encapsulated with an elec. insulator, which in turn is encapsulated with a thermal conductor forming an outer surface of the article. The thermal conductor comprises 10-70 weight% carbon fibers spun from mesophase pitch, with the balance consisting of a resin or a combination of a resin and an **alternate** fiber or filler. Thus, a transformer was encapsulated by injection-molding with Rynite FR 530NC10 [30 weight% chopped glass fiber-reinforced fireproof poly(ethylene terephthalate) (I)] at 280°, and then encapsulated by injection-molding with an outer layer comprising 50 weight% pitch carbon fiber mat-reinforced I at 280°. The doubly encapsulated transformer passed UL 1585 sections 28 (rated secondary current test) and 29 (rated output heating test).

SUPPL. TERM: potting elec app reinforced polyester; **insulator** glass **fiber** reinforced polyester; carbon fiber reinforced polyester; thermal **conductor** polyester carbon **fiber**; transformer encapsulation

INDEX TERM: Thermal **conductors**
(carbon **fiber**-reinforced polyester, transformers potted with)

INDEX TERM: Electric insulators and Dielectrics
(glass fiber-reinforced polyester, transformers potted in)

INDEX TERM: Carbon fibers, uses and miscellaneous
ROLE: USES (Uses)
(polyester reinforced by, thermally conductive, transformers potted with)

INDEX TERM: Transformers
(potted in two stages with elec. insulators and thermal conductors)

INDEX TERM: Potting
(two-stage, of transformers with glass fiber- and carbon fiber-reinforced poly(ethylene terephthalate))

INDEX TERM: 7440-44-0
ROLE: USES (Uses)
(carbon fibers, polyester reinforced by, thermally conductive, transformers potted with)
INDEX TERM: 25038-59-9, uses and miscellaneous
ROLE: USES (Uses)
(glass **fiber**-reinforced, elec. **insulators**, transformers potted with)

L57 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:11663 HCAPLUS
DOCUMENT NUMBER: 106:11663
ENTRY DATE: Entered STN: 11 Jan 1987
TITLE: Anisotropically conductive film
INVENTOR(S): Nomura, Kyoji
PATENT ASSIGNEE(S): Shinto Paint Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
INT. PATENT CLASSIF.:
MAIN: H01B005-16
SECONDARY: B32B005-02; B32B015-14; H01R011-01; H05K003-32; H05K003-36
CLASSIFICATION: 76-2 (Electric Phenomena)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61147407	A	19860705	JP 1984-267008	19841218

PRIORITY APPLN. INFO.: JP 1984-267008 19841218

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61147407	ICM	H01B005-16
	ICS	B32B005-02; B32B015-14; H01R011-01; H05K003-32; H05K003-36
	IPCI	H01B0005-16 [ICM,4]; B32B0005-02 [ICS,4]; B32B0015-14 [ICS,4]; H01R0011-01 [ICS,4]; H05K0003-32 [ICS,4]; H05K0003-36 [ICS,4]
	IPCR	B32B0005-02 [I,A]; B32B0005-02 [I,C*]; B32B0015-14 [I,A]; B32B0015-14 [I,C*]; H01B0005-16 [I,A]; H01B0005-16 [I,C*]; H01R0011-01 [I,A]; H01R0011-01 [I,C*]; H05K0003-32 [I,A]; H05K0003-32 [I,C*]; H05K0003-36 [I,A]; H05K0003-36 [I,C*]

ABSTRACT:
An anisotropically conductive film consists of **alternately** arranged **conductive fiberlike** material (e.g., Cu wires) and an **insulative fiberlike** material (e.g., nylon fibers) in an adhesive sheetlike insulative medium.

SUPPL. TERM: conductor film anisotropic; copper nylon **fiber**

anisotropic **conductor**
INDEX TERM: Polyamide fibers, uses and miscellaneous
Polyester fibers, uses and miscellaneous
ROLE: USES (Uses)
(anisotropic conductor films containing)
INDEX TERM: Electric conductors
(anisotropic, films)
INDEX TERM: 7429-90-5, uses and miscellaneous 7440-22-4, uses and miscellaneous 7440-50-8, uses and miscellaneous 7440-57-5, uses and miscellaneous 9003-07-0, Polypropylene 12597-71-6, uses and miscellaneous 105269-86-1
ROLE: USES (Uses)
(anisotropic conductor films containing)

L57 ANSWER 10 OF 13 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1985:2432696 INSPEC
DOCUMENT NUMBER: A1985-049174
TITLE: The effect of electroforming on the **alternating** current behaviour of thin amorphous SiOx/V2O5 films
AUTHOR: Al-Ramadhan, F.A.S.; Hogarth, C.A. (Dept. of Phys., Brunel Univ., Uxbridge, UK)
SOURCE: Physica Status Solidi A (16 Jan. 1985), vol.87, no.1, p. 351-4, 14 refs.
CODEN: PSSABA, ISSN: 0031-8965
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
COUNTRY: German Democratic Republic
LANGUAGE: English
ABSTRACT: **Alternating** current measurements are described for amorphous SiOx/V2O5 thin films before and after electroforming. The AC conductance increases and the capacitance decreases as a result of an electroforming process. The frequency independent conductance and frequency dependent inductance observed after electroforming are both associated with the formation of metallic **conducting filaments** which bridge the **electrodes** across the insulating layer. Before electroforming and at low temperatures hopping conduction is the dominant conduction process
CLASSIFICATION CODE: A7220F Low-field transport and mobility; piezoresistance (semiconductors/insulators); A7360 Electrical properties of thin films and low-dimensional structures
CONTROLLED TERM: amorphous state; capacitance; electric admittance; electrical conductivity of amorphous semiconductors and insulators; electroforming; hopping conduction; inductance; silicon compounds; thin films; vanadium compounds
SUPPLEMENTARY TERM: electroforming; alternating current behaviour; thin amorphous SiOx/V2O5 films; capacitance; frequency independent conductance; frequency dependent inductance; metallic conducting filaments; insulating layer; hopping conduction
ELEMENT TERMS: O*Si; SiOx; Si cp; cp; O cp; O*V; V2O5; V cp

L57 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1969:514639 HCAPLUS
DOCUMENT NUMBER: 71:114639
ENTRY DATE: Entered STN: 12 May 1984
TITLE: Multilayer vacuum insulation and its application to a silicon-germanium converter
AUTHOR(S): Notaro, F.; Nies, G. E.; Hedel, R.
CORPORATE SOURCE: Linde Div., Union Carbide Corp., Tonawanda, NY, USA
SOURCE: Proc. Intersoc. Energy Convers. Eng. Conf., 4th (1969), 400-7. Amer. Inst. of Chem. Eng.: New York, N. Y.
CODEN: 21PXAD
DOCUMENT TYPE: Conference
LANGUAGE: English
CLASSIFICATION: 48 (Unit Operations and Processes)
ABSTRACT:
The multilayer (**alternate** layers of foils and spacers) concept of insulation is reviewed. New thermal conductivity data for a system of Ni foil-fibrous quartz paper and for a system of Ni foil-woven quartz spacer is presented. Thermal conds. in vacuum for the 1st system range from 1.5 + 10-4 Btu./hr. ft.2 °F./ft. at low temps. and low mech. loads to 2.6 + 10-3 Btu./hr. ft.2 °F./ft. at high temps. and high mech. loads. Thermal conds. for the 2nd system vary from 2.5 + 10-4 to 6 + 10-3 Btu./hr. ft.2 °F./ft. as mech. loads and temps. are increased. Application of Union Carbide multi-layer insulation to a 5-w. Si-Ge thermoelec. converter designed and built by R.C.A. is described. The use of Super Insulation resulted in the highest converter efficiency; an increase of 35% in efficiency (from 4.9% to 6.6%) over a similar converter **insulated** with **fibrous** ***insulation.***

SUPPL. TERM: multilayer vacuum insulation; vacuum insulation multilayer; insulation vacuum multilayer
INDEX TERM: Thermonic devices
(insulation of silicon-germanium, multilayer of foil-fibrous quartz system in)
INDEX TERM: Thermal insulators
(multilayer nickel foil-**fibrous** quartz, thermal **conductivity** of, under vacuum)

L57 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1965:470145 HCAPLUS
DOCUMENT NUMBER: 63:70145
ORIGINAL REFERENCE NO.: 63:12851d-e
ENTRY DATE: Entered STN: 22 Apr 2001
TITLE: Multilayer thermal insulation
INVENTOR(S): Paivanas, John A.
PATENT ASSIGNEE(S): Union Carbide Corp.
SOURCE: 9 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
US PATENT CLASSIF.: 220009000
CLASSIFICATION: 21 (Ceramics)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3199715 19650810 US 1962-211229
196207
20

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3199715	INCL	220009000
	IPCR	B32B0015-08 [I,A]; B32B0015-08 [I,C*]; C04B0028-00 [I,C*]; C04B0028-24 [I,A]; E04B0001-76 [I,A]; E04B0001-76 [I,C*]; F16L0059-06 [I,A]; F16L0059-06 [I,C*]; F16L0059-08 [I,A]; F16L0059-08 [I,C*]; F17C0003-00 [I,C*]; F17C0003-08 [I,A]; F17C0013-00 [I,A]; F17C0013-00 [I,C*]
	NCL	220/560.130; 220/560.100

ABSTRACT:
Multilayer thermal insulation is used to minimize heat inleak to liquefied gases held in vacuum containers. The insulation is based on precompressed sheets of glass fibers with heat-reflecting bodies. Bulking strips of low **conducting fibers** are placed between sheets. This reduces heat conductivity about 50% compared to the glass paper Al-foil combination. Thus glass paper 1.6 g./sq. ft. ***alternating*** with 1/4 mil Al foil, in form of 70 layers with a d. of 5.1 lb./cu. ft. has a thermal conductivity, (K + 10-3, B.t.u./hr./sq. ft./°F./ft.) of 0.021. In contrast glass paper of preceding abstract with 30% Al flakes 1.1 g./sq. ft. **alternating** with 1/4 mil Al foil built up to 117 layers, with a d. of 8.9 lb./cu. ft. has a thermal conductivity of 0.012. Cf. preceding abstract

INDEX TERM: Metals
(thermal **insulators** from glass **fibers** and)
INDEX TERM: 7429-90-5, Aluminum
(thermal **insulators** from glass **fibers** and foil of)

L57 ANSWER 13 OF 13 JAPIO (C) 2007 JPO on STN
ACCESSION NUMBER: 2004-026595 JAPIO
TITLE: **CONDUCTIVE FIBER** SEPARATION APPARATUS
INVENTOR: WASHIZU MASAO; AOKI TAIICHIRO
PATENT ASSIGNEE(S): ADVANCE CO LTD
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2004026595	A	20040129	Heisei	C01B031-02

APPLICATION INFORMATION
STN FORMAT: JP 2002-186868 20020626
ORIGINAL: JP2002186868 Heisei
PRIORITY APPLN. INFO.: JP 2002-186868 20020626
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004
INT. PATENT CLASSIF.:
MAIN: C01B031-02

ABSTRACT:
PROBLEM TO BE SOLVED: To provide an apparatus which has a simple structure, is small-sized and sorts and separates **conductive fibers** from nonconductive fibers, in particular, an

apparatus which separates conductive nanotubes from nonconductive nanotubes.
SOLUTION: An **electrode** array is disposed in a flow path on a substrate and the **electrode** array is covered with an insulation film from above. When the **fiber** suspended in **insulative** liquid is caused to flow in the flow path while applying an **alternate** voltage to an **electrode**, a current flows through the **conductive fiber**, charge is induced instantaneously and the **conductive fiber** is attached to the **electrode** by an electrostatic force. The current does not flow, on the other hand, through the **insulative fiber**, the sufficient charge is not induced to a semiconductor fiber during a period of the applied **alternate** current and, therefore, the semiconductor fiber is not attached to the **electrode.** In such a manner, only the **conductive fibers** can be sorted.

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